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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/396,303	09/15/1999	ALEJANDRO H. SCHWARTZMAN	CISCP092X1/1	7238

22434 7590 08/06/2004

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EXAMINER

TRAN, KHANH C

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 08/06/2004

[Handwritten number 17]

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/396,303	Applicant(s) SCHWARTZMAN ET AL.	
	Examiner Khanh Tran	Art Unit 2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 21 and 25-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27 and 28 is/are allowed.
- 6) ☒ Claim(s) 1-18, 21, 25, 26, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Amendment filed on 05/20/2004 has been entered. Claims 1-18, 21, 25-30 are pending in this Office action.

Response to Arguments

2. Applicant's arguments with respect to claims 1-15, 17-18, and 25-26 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 16 and 21 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure, which is not enabling. The feature "**always keeping the variable amplifier in an activated state if the amplifier is not fast enough**" critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

As disclosed in the original disclosure on page 21 lines 5-15, if the amplifier is not fast enough, the amplifier is always kept in an activated state. Since the body of claim 16 does not encompass the foregoing disclosure, the claimed step "activating only the switch component if the amplifier cannot enable

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at a sufficient speed" can be interpreted as such activating only the switch component and not activating the amplifier if the amplifier cannot enable at a sufficient speed. Without activating the amplifier, no transmission occurs even with the switch being activated. The claim is not enabling in light of the foregoing reasoning.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 8-15, 17-18, 25-26, and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang U.S. Patent 6,160,571.

Regarding claim 1, Wang discloses in figure 2 a CATV transceiver circuit wherein the transmitter section 32 of the transceiver 30 (column 6, lines 21-60) includes a Psave control signal 110 that is effectively used as a transmitter enable signal, the Psave control signal 110 corresponding to the claimed control signal, an AGC amplifier 102 implemented using an NEC UPC3211 AGC Amplifier and configured to be controlled directly by the Psave signal 110. When enabled by the Psave signal 110, the

amplification function of the AGC amplifier 102 is enabled through on-chip bias circuit 106 and on-chip AGC amplifier 104.

Wang does not disclose a switch component capable of being enabled and disabled by the control signal on the control line as claimed in the patent application.

As recited in previous Office action and repeated here, there are numerous ways to implement a switch component without utilizing an actual switch to turn on or off. The PSave signal 110, used as a transmitter enable signal, effectively controls the functional operation of the driver 108 through a bias circuit 106 and a control line 112, either to enable the driver 108 thereby allowing data signal to be transmitted, or to shut down and terminate the power consumption by the driver 108, thereby precluding the generation of any unnecessary and unwanted noise injected into the cable plant 14, see column 6 lines 34-60. In light of the foregoing teachings, it would have been obvious for one of ordinary skill in the art at the time the invention was made that the driver 108 performs an equivalent function of a switch component and is representative of a switch component as claimed in the pending application.

Wang does not expressly disclose the transmitter is configured to generate the control signal for protection from the noise leakage using only the switch. According to Wang teachings, the Psave control signal 110 can be set to disable transmission. Also, disclosed in column 6 lines

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53-60, Wang expresses that withdrawal of the bias signal shuts down and terminate power consumption of the driver 108, precluding the generation of any unnecessary and unwanted noise injected into the cable plant 14 during the periods of reception. In light of the aforementioned teachings, it would have been obvious for one of ordinary skill in the art at the time the invention was made that Wang transmitter section can be modified so that in the state of disable transmission, the Psave control signal 110 is generated to control the withdrawal of the bias signal on the control line 112, thereby only operating the driver 108, corresponding to the claimed first mode of protection.

Regarding claim 2, Wang does not expressly disclose the claimed switch component including a plurality of switches in the embodiment as recited in claim 1. Nevertheless, Wang further discloses (see figure 6, column 10, lines 21-52) another embodiment of utilizing an electronic switch 144 in conjunction with a conventional RF isolation transformer 142. The differences between the two embodiments are that in figure 6, the Psave control signal 110, which is used as a transmitter enable signal, controls the electronic switch 144 and the driver 108. The embodiment in figure 6 employs a discrete attenuation control, rather than the continuous AGC based control. However, one of ordinary skill in the art will appreciate that the transmitter circuit 32 in figure 2 could be modified to utilize the electronic switch 144 with a conventional RF isolation transformer 142 as taught in figure 6 since the modification would not have any impact on the transmitter

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operation. The electronic switch 144 in figure 6 includes a plurality of switches as claimed in the pending application.

Regarding claim 3, see column 10, lines 36-52, the electronic switch 144 selectively couples one end of the second winding of a RF isolation transformer 142 to the Transmit RF Out lead of the diplexer circuit 40 (shown in figure 6) when transmission of an RF signal is enabled.

Regarding claim 4, see column 10, lines 36-52, when the state of the PSAVE control signal 110 is set to disable transmission, the switch 144 connects the Transmit RF Out lead of the diplexer circuit 40 through a 75-ohm resistive load to an RF signal ground, thus establishing a fixed termination characteristic for the transmitter portion of the diplexer circuit 40 during periods of RF reception.

Regarding claim 5, as recited in claim 4, the switch 144 is attached to a 75-ohm resistive load during periods of RF reception. In view of that, the switch performs as a shunt switch attached to a resistor, corresponding to the claimed feature.

Regarding claim 8, the driver 108, performing as a switch component as recited in claim 1, is not contained in any other component in the cable transceiver in figure 2.

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Regarding claim 9, the driver 108, performing as a switch component as recited in claim 1, is coupled by a data bus to a duplex filter.

Regarding claims 10 and 18, said claims have similar scope as claim 1, and hence, are rejected on the same ground similar to claim 1. As recited in claim 1, the Psave signal 110, used as a transmitter enable signal, directly controls the amplification function of the AGC amplifier 102 and the driver 108 through a bias circuit 106 shown in figure 2.

Wang does not expressly show the Psave signal 110 directly controlling the driver 108. However, since the Psave signal 110 directly controls the bias circuit 106, which provides a control signal on the control line 112 to the driver 108, it would have been obvious for one of ordinary skill in the art at the time the invention was made that the Psave control signal 110 acts as directly controlling the driver 108.

Data is transmitted in the upstream channel when both the amplification function of the AGC amplifier 102 and the driver 108 are enabled.

As recited in claim 1, the Psave control signal 110 can be set to disable transmission. In light of that, the Psave control signal 110 can be used to deactivate the amplification function of the AGC amplifier 102 and to shut down the driver 108. After the data is transmitted on the upstream channel, the Psave control signal 110 is set to disable transmission as appreciated by one of ordinary skill in the art.

Also recited in claim 1, Wang does not expressly disclose the transmitter is configured to generate the control signal for protection from the noise leakage using only the switch. Disclosed in column 6 lines 53-60, Wang expresses that withdrawal of the bias signal shuts down and terminate power consumption by the driver 108, precluding the generation of any unnecessary and unwanted noise injected into the cable plant 14 during the periods of reception. Since the Psave control signal 110 can be set to disable transmission, it would have been obvious for one of ordinary skill in the art at the time the invention was made that Wang transmitter section can be modified so that in the state of disable transmission, the Psave control signal 110 is generated to control the withdrawal of the bias signal on the control line 112, thereby only operating the driver 108, corresponding to the claimed first mode of protection.

Regarding claim 11, referring to figure 2, the Psave signal 110 asserts a control line 112 to activate the driver 108, which is performed as a switch component as recited in claim 1.

Regarding claim 12, as recited in claim 2, the transmitter circuit 32 in figure 2 could be modified to utilize the electronic switch 144 with a conventional RF isolation transformer 142 as taught in figure 6. The electronic switch 144 selectively couples one end of the second winding of a RF isolation transformer 142 to the Transmit RF Out lead of the diplexer circuit 40 (shown in figure 2)

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when transmission of an RF signal is enabled. The recited position of the electronic switch 144 is equivalent to a series switch as claimed in the pending application.

Regarding claim 13, referring to the embodiment in figure 6, the switch 144 connecting to a 75-ohm resistive load, equivalent to the claimed shunt switch, is open when transmission of an RF signal is enabled.

Regarding claim 14, referring to the embodiment in figure 6, when the state of the PSAVE control signal 110 is set to disable transmission, the switch 144 connects the Transmit RF Out lead of the diplexer circuit 40 through a 75-ohm resistive load to an RF signal ground, performing as a shunt switch as appreciated by one of ordinary skill in the art, thus establishing a fixed termination characteristic for the transmitter portion of the diplexer circuit 40 during periods of RF reception.

Regarding claim 15, referring to the embodiment in figure 6, during periods of RF reception, the switch 144 connects the Transmit RF Out lead of the diplexer circuit 40 through a 75-ohm resistive load to an RF signal ground. That effectively opens the series switch position and disconnects a data signal path to a diplexer circuit 40.

Regarding claim 17, when enabled for transmission by the Psave signal 110, the bias circuit 106 provides a bias signal to the AGC amplifier 104 that enables the amplification function (see figure 2).

Regarding claims 25-26, Wang does not expressly disclose activating the switch component and activating the amplifier are performed in a synchronized manner. Nevertheless, one of ordinary skill in the art of communications will appreciate that activating the AGC amplifier 102 and the driver 108 are performed in a synchronized manner.

Regarding claims 29 and 30, said claim has similar scope as claim 10, hence, is rejected on the same ground as claim 10. Referring back to figure 2, when the Psave signal 110 is set to enable transmission, the amplification function of the AGC amplifier 102 is enabled through on-chip bias circuit 106 and on-chip AGC amplifier 104. Then, the bias circuit provides a bias control signal on the control line 112 to enable the driver 108. As recited in claim 1, Wang expresses that withdrawal of the bias signal shuts down and terminate power consumption of the driver 108, precluding the generation of any unnecessary and unwanted noise injected into the cable plant 14 during the periods of reception. In light of the foregoing, one of ordinary skill in the art will appreciate that Wang teachings clearly suggests the driver 108 is deactivated first before the

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AGC amplifier 102 is deactivated when the Psave control signal 110 can be set to disable transmission.

5. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang U.S. Patent 6,160,571 as applied to claim 1 above, and further in view of Bowyer et al. US Patent 6,307,593 B1.

Regarding claim 6, Wang teachings show the driver 108, performing as a switch component, and the AGC amplifier 102 implemented on separate chips. However, with the advance of the IC technology, it would have been obvious for one of ordinary skill in the art at the time of invention that the switch 144 and the AGC amplifier 102 could be integrated into the same IC circuit. Boyer et al. discloses a similar implementation in another US patent, wherein the tag insertion circuit 20 in figure 2 includes a pulse switch 50 comprising an RF switch 60 and a switchable amplifier 62. The switchable amplifier 62 and the RF switch 60 are implemented on a same chip. In view of that, Boyer et al. teachings reinforce the Examiner's arguments that the switch component and the amplifier could be integrated into a single unit.

Regarding claim 7, referring back figure 2 in Wang invention, the AGC amplifier 102 is a variable amplifier.

Allowable Subject Matter

6. Claims 27-28 are allowed.

Regarding claims 27-28, said claims are allowed after claims being rewritten in independent form to include allowable features. The prior art of record (US 6,160,571) does not teach or suggest the uniquely distinct steps of “activating the switch component while keeping the amplifier activated if it is determined that the amplifier is not able to be activated fast enough to receive data without causing data loss” and “deactivating the switch component while keeping the amplifier activated if it is determined that the amplifier is not able to be activated fast enough to receive data without causing data loss”.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 703-305-2384. The examiner can normally be reached on Tuesday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 703-306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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TESFALDET BOCHRE
PRIMARY EXAMINER